

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, DC 20549

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**FORM S-8  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**DIFFUSION PHARMACEUTICALS INC.**

(Exact name of Registrant as specified in its charter)

**Delaware**

(State of Incorporation)

**1317 Carlton Avenue, Suite 200  
Charlottesville, VA 22902  
(434) 220-0718**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**30-0645032**

(I.R.S. Employer Identification No.)

**DIFFUSION PHARMACEUTICALS INC.  
2015 EQUITY INCENTIVE PLAN, AS AMENDED**  
(Full Title of the Plan)

**David G. Kalergis  
Chief Executive Officer  
1317 Carlton Avenue, Suite 200  
(434) 220-0718**

(Name, address including zip code, and telephone number, including area code, of agent for service)

With a Copy to:  
David S. Rosenthal, Esq.  
Dechert LLP  
Three Bryant Park  
New York, New York 10036  
(212) 698-3500

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging Growth Company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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**CALCULATION OF REGISTRATION FEE**

Title Of Securities To Be Registered	Amount To Be Registered <sup>(1)</sup>	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount Of Registration Fee
Common Stock, par value \$0.001 per share <sup>(2)</sup>	971,600	\$0.47 <sup>(4)</sup>	\$456,652.00 <sup>(4)</sup>	\$59.27
Common Stock, par value \$0.001 per share <sup>(3)</sup>	367,615	\$0.87 <sup>(5)</sup>	\$319,825.05 <sup>(5)</sup>	\$41.51
<b>Total</b>	<b>1,339,215</b>	<b>--</b>	<b>\$776,477.05</b>	<b>\$100.78</b>

- (1) This Registration Statement relates to 1,339,215 shares of common stock of Diffusion Pharmaceuticals Inc. (the “Registrant”) not previously registered and available for issuance under the Registrant’s 2015 Equity Incentive Plan, as amended (the “Plan”). Pursuant to Rule 416 of the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement shall also cover any additional shares of the Registrant’s common stock which become issuable under the Plan pursuant to this Registration Statement by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which results in an increase in the number of the Registrant’s outstanding shares of common stock.
- (2) Represents shares of the Registrant’s common stock not previously registered and subject to awards outstanding under the Plan.
- (3) Represents shares of the Registrant’s common stock not previously registered and available for issuance under the Plan.
- (4) The Proposed Maximum Offering Price Per Share and Proposed Maximum Aggregate Offering Price have been calculated solely for purposes of determining the registration fee for this offering under Rule 457(h) of the Securities Act and based on the weighted average exercise price of the awards outstanding under the Plan.
- (5) The Proposed Maximum Offering Price Per Share and Proposed Maximum Aggregate Offering Price have been calculated solely for purposes of determining the registration fee for this offering under Rule 457(c) and (h) of the Securities Act of 1933 on the basis of the average of the high and low selling price per share of common stock of the Registrant on May 12, 2020, as reported by the Nasdaq Capital Market.

## REGISTRATION OF ADDITIONAL SHARES PURSUANT TO GENERAL INSTRUCTION E

Pursuant to General Instruction E of Form S-8, the Registrant is filing this Registration Statement with the Commission to register 1,339,215 additional shares of the Registrant's common stock under the Plan, all of which are related to an automatic increase in the number of shares reserved for issuance under the Plan on January 1, 2020 pursuant to the provisions thereof. This Registration Statement hereby incorporates by reference the contents of the Registrant's registration statements on Form S-8 filed with the Commission on each of August 14, 2015 (Registration No. 333-206408), May 17, 2017 (Registration No. 333-218060), August 10, 2018 (Registration No. 333-226782) and August 20, 2019 (Registration No. 333-233381) (collectively, the "Previous Registration Statements"). The additional shares are of the same class as other securities relating to the Plan for which the Registrant's registration statements on Form S-8 were filed with the Commission on each of the Previous Registration Statements.

### PART I

#### INFORMATION REQUIRED IN SECTION 10(a) PROSPECTUS

Information required in Part I of Form S-8 to be contained in a prospectus meeting the requirements of Section 10(a) of the Securities Act is not required to be filed with the Commission and is omitted from this Registration Statement in accordance with the explanatory note to Part I of Form S-8 and Rule 428 under the Securities Act. The documents containing the information specified in Part I of Form S-8 will be sent or given to directors, officers, employees and consultants as specified by Rule 428(b)(1) of the Securities Act.

### PART II

#### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

**Item 3. Incorporation of Documents by Reference.**

The Registrant is registering additional securities under the Plan covered hereby for which the Previous Registration Statements are currently effective. This registration statement is filed solely to register an additional 1,339,215 additional shares of the Registrant's common stock for issuance under the Plan. Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of the Previous Registration Statements, including periodic reports that the Company filed with the Commission pursuant to the Exchange Act.

**Item 8. Exhibits.**

See the attached Exhibit Index, which is incorporated herein by reference.

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## EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description</u>
4.1	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000143774919005256/ex_137220.htm">Certificate of Incorporation of Diffusion Pharmaceuticals Inc., as amended (incorporated by reference to Exhibit 3.1 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-37942), filed March 19, 2019).</a>
4.2	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000143774916028395/ex3-4.htm">Bylaws of Diffusion Pharmaceuticals Inc., as amended (incorporated by reference to Exhibit 3.4 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2015 (File No. 001-24477), filed March 25, 2016).</a>
4.3	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000110465915046210/a15-14238_1ex10d2.htm">Diffusion Pharmaceuticals Inc. 2015 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-24477) as filed on June 18, 2015).</a>
4.4	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000143774916033633/dffn20160607_def14a.htm">Amendment No. 1 to Diffusion Pharmaceuticals Inc. 2015 Equity Incentive Plan (incorporated by reference to Appendix B to the Registrant's Definitive Proxy Statement (File No. 001-24477) on Schedule 14A filed on June 10, 2016).</a>
4.5	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000110465915046210/a15-14238_1ex10d3.htm">Form of 2015 Incentive Stock Option Agreement under the Diffusion Pharmaceuticals Inc. 2015 Equity Incentive Plan (incorporated by reference to Exhibit 10.7 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 (File No. 001-37942), filed March 31, 2017).</a>
4.6	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000110465915046210/a15-14238_1ex10d4.htm">Form of 2015 Non-Statutory Stock Option Agreement under the Diffusion Pharmaceuticals Inc. 2015 Equity Incentive Plan (incorporated by reference to Exhibit 10.8 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 (File No. 001-37942), filed March 31, 2017).</a>
4.7	<a href="https://www.sec.gov/Archives/edgar/data/1053691/000143774918006050/ex_108103.htm">Form of Diffusion Pharmaceuticals Inc. Stock Option Award Agreement (incorporated by reference to Exhibit 10.5 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 000-24477), filed April 2, 2018).</a>

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<u>Exhibit Number</u>	<u>Description</u>
5.1	<a href="#"><u>Opinion of Dechert LLP (counsel to the Registrant) as to the legality of the securities being registered.</u></a>
23.1	<a href="#"><u>Consent of KPMG LLP</u></a>
23.2	<a href="#"><u>Consent of Dechert LLP (included in Exhibit 5.1 hereto).</u></a>
24.1	<a href="#"><u>Power of Attorney (included in the signature page to this Registration Statement).</u></a>

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## SIGNATURES

*The Registrant.* Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement on Form S-8 to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Charlottesville, Commonwealth of Virginia, on this 13th day of May, 2020.

DIFFUSION PHARMACEUTICALS INC.

By: /s/ David G. Kalergis

David G. Kalergis  
Chief Executive Officer  
(Principal Executive Officer)

## POWER OF ATTORNEY

KNOWN TO ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints David G. Kalergis, Chief Executive Officer and Chairman of Diffusion Pharmaceuticals Inc. and William Hornung, Chief Financial Officer of Diffusion Pharmaceuticals Inc., or either of them, his true and lawful attorneys-in-fact and agents, each of whom may act alone, with full powers of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any or all amendments to this Registration Statement, including post-effective amendments to this Registration Statement and registration statements filed pursuant to Rule 429 under the Securities Act, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Commission, granting unto said attorneys-in-fact and agents, and each of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, and hereby ratifies and confirms all his said attorneys-in-fact and agents or any of them or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

This Power of Attorney may be executed in multiple counterparts, each of which shall be deemed an original, but which taken together shall constitute one instrument. Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David G. Kalergis</u> David G. Kalergis	Chief Executive Officer and Chairman (Principal Executive Officer)	May 13, 2020
<u>/s/ William Hornung</u> William Hornung	Chief Financial Officer (Principal Financial Officer and Accounting Officer)	May 13, 2020
<u>/s/ Robert Adams</u> Robert Adams	Director	May 13, 2020

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/s/ Robert J. Cobuzzi  
Robert J. Cobuzzi

Director

May 13, 2020

/s/ John L. Gainer  
John L. Gainer

Director

May 13, 2020

/s/ Mark T. Giles  
Mark T. Giles

Director

May 13, 2020

/s/ Alan Levin  
Alan Levin

Director

May 13, 2020

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May 13, 2020

Diffusion Pharmaceuticals Inc.  
1317 Carlton Avenue, Suite 200  
Charlottesville, VA 22902

Re: REGISTRATION STATEMENT ON FORM S-8

Ladies and Gentlemen:

We have acted as counsel to Diffusion Pharmaceuticals Inc., a Delaware corporation (the "Company"), in connection with the filing with the Securities and Exchange Commission (the "Commission") of a registration statement on Form S-8 (the "Registration Statement") for the purpose of registering under the Securities Act of 1933, as amended (the "Securities Act"), 1,339,215 shares of its common stock, par value \$0.001 per share (the "Shares"), issuable under the Diffusion Pharmaceuticals Inc. 2015 Equity Incentive Plan, as amended (the "Plan").

This opinion (the "Opinion") is being furnished to the Company in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement other than as expressly stated herein with respect to the Shares.

In connection with this Opinion, we have examined originals or copies (in each case signed, certified or otherwise proven to our satisfaction to be genuine) of: (i) the Plan; (ii) the Company's Certificate of Incorporation, as amended (the "Charter"); (iii) the Bylaws of the Company, as amended; and (iv) resolutions approving the corporate action of the Company authorizing the issuance and sale of the Shares.

In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as original documents, and the conformity to original documents of all documents submitted to us as copies, the legal capacity of natural persons who are signatories to the documents examined by us and the legal power and authority of all persons signing on behalf of parties (other than the Company) to all documents.

In rendering the opinion expressed below, we have assumed that prior to the issuance of any of the Shares, there will exist under the Charter the requisite number of authorized but unissued shares of common stock. In addition, we have assumed (i) the resolutions authorizing the Company to issue the Shares in accordance with the terms and conditions of the Plan will remain in effect and unchanged at all times during which the Shares are issued by the Company, and (ii) the Registration Statement, and any amendments thereto, at the time of issuance of the Shares, will continue to be effective under the Securities Act.

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Subject to the foregoing and the other matters set forth herein, it is our opinion that when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the holder and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the Plan, assuming in each case that the individual issuances, grants or awards under the Plan are duly issued, granted or awarded and exercised in accordance with the requirements of law and the Plan (and the agreements and awards duly adopted thereunder and in accordance therewith), the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and non-assessable.

We are members of the Bar of the State of New York and the foregoing Opinion is limited to the General Corporation Law of the State of Delaware.

We hereby consent to the filing of this Opinion as an exhibit to the Registration Statement. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Dechert LLP

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**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
Diffusion Pharmaceuticals Inc.:

We consent to the use of our report incorporated by reference herein.

Our report dated March 17, 2020 contains an explanatory paragraph that states that the Company has suffered recurring losses from operations, has limited resources available to fund current research and development activities, and will require substantial additional financing to continue to fund its research and development activities that raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ KPMG LLP

McLean, Virginia  
May 13, 2020

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